WHAT IS CLAIMED IS:

1. Isolated biologically active Apo-2LI having at least about 80% sequence identity with native sequence Apo-2LI having amino acid residues 1 to 181 of SEQ ID NO:1.

2. The Apo-2LI of claim 1 wherein said Apo-2LI has at least about 90% sequence identity.

3. The Apo-2LI of claim 2 wherein said Apo-2LI has at least about 95% sequence identity.

4. Isolated Apo-2LI comprising amino acid residues 1 to 181 of SEQ ID NO:1.

5. A chimeric molecule comprising the Apo-2LI of claim 1 or claim 4 fused to a heterologous amino acid sequence.

6. The chimeric molecule of claim 5 wherein said heterologous amino acid sequence is an epitope tag sequence.

7. The chimeric molecule of claim 5 wherein said heterologous amino acid sequence is an immunoglobulin sequence.

8. The chimeric molecule of claim 7 wherein said immunoglobulin sequence is an IgG.

9. A dimer molecule comprising a first Apo-2LI and a second Apo-2LI.

10. An antibody which binds to Apo-2LI.

11. The antibody of claim 10 wherein said antibody is a monoclonal antibody.

12. Isolated nucleic acid encoding Apo-2LI.

13. The nucleic acid of claim 12 wherein said nucleic acid encodes an Apo-2LI comprising amino acid residues 1 to 181 of SEQ ID NO:1.

14. A vector comprising the nucleic acid of claim 12.

15. A host cell comprising the vector of claim 14.

16. A method of producing Apo-2LI comprising culturing the host cell of claim 15 and recovering the Apo-2LI from the host cell culture.

17. An article of manufacture, comprising:

a container;

a label on said container; and

a composition contained within said container, said composition comprising Apo-2LI.

18. The article of manufacture of claim 17 further comprising instructions for using the Apo-2LI *in vivo* or *ex vivo*.

19. Isolated biologically active Apo-3 polypeptide having at least about 80% sequence identity with native sequence Apo-3 having amino acid residues 1 to 417 of SEQ ID NO:6.

20. The Apo-3 of claim 19 wherein said Apo-3 has at least about 90% sequence identity.

21. The Apo-3 of claim 20 wherein said Apo-3 has at least about 95% sequence identity.

22. Isolated native sequence Apo-3 comprising amino acid residues 1 to 417 of SEQ ID NO:6.

23. Isolated biologically active polypeptide having at least about 80% sequence identity with the extracellular domain sequence of Apo-3 having amino acid residues 1 to 198 of SEQ ID NO:6.

24. The polypeptide of claim 23 wherein said polypeptide has at least about 90% sequence identity.

25. The polypeptide of claim 24 wherein said polypeptide is Apo-2LI.

26. Isolated extracellular domain sequence of Apo-3 comprising amino acid residues 1 to 198 of SEQ ID NO:6.

27. Isolated death domain sequence of Apo-3 comprising amino acid residues 338 to 417 of SEQ ID NO:6.

28. A chimeric molecule comprising the Apo-3 of claim 22 or the extracellular domain sequence of claim 23 fused to a heterologous amino acid sequence.

29. The chimeric molecule of claim 28 wherein said heterologous amino acid sequence is an epitope tag sequence.

30. The chimeric molecule of claim 28 wherein said heterologous amino acid sequence is an immunoglobulin sequence.

31. The chimeric molecule of claim 30 wherein said immunoglobulin sequence is an IgG.

32. An antibody which binds to Apo-3 or to the extracellular domain sequence of claim 23.

33. The antibody of claim 32 wherein said antibody is a monoclonal antibody.

34. Isolated nucleic acid encoding the Apo-3 of claim 22, the extracellular domain sequence of claim 23 or the death domain sequence of claim 27.

35. The nucleic acid of claim 34 wherein said nucleic acid encodes native sequence Apo-3 comprising amino acid residues 1 to 417 of SEQ ID NO:6.

36. A vector comprising the nucleic acid of claim 34.

37. The vector of claim 36 operably linked to control sequences recognized by a host cell transformed with the vector.

38. A host cell comprising the vector of claim 36.

39. A process of using a nucleic acid molecule encoding Apo-3 to effect production of Apo-3 comprising culturing the host cell of claim 38.

40. A non-human, transgenic animal which contains cells that express nucleic acid encoding Apo-3.

41. The animal of claim 40 which is a mouse or rat.

42. A non-human, knockout animal which contains cells having an altered gene encoding Apo-3.

43. The animal of claim 42 which is a mouse or rat.

44. An article of manufacture, comprising a container and a composition contained within said container, wherein the composition includes Apo-3 polypeptide or Apo-3 antibodies.

45. The article of manufacture of claim 44 further comprising instructions for using the Apo-3 polypeptide or Apo-3 antibodies *in vivo* or *ex vivo*.